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Better Reviews

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BETTER REVIEWS

By

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For the Degree of Master of Science,

With a Major in Computer Science

Governors State University
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ABSTRACT

Better Reviews is a user-based online website which provides reviews about the local businesses. This website has two types of users – Reviewers and Business Owners. The reviewers can view the reviews of the local businesses and give their own review. This data will be useful for the other users to choose services or products among the local businesses.

The business owners can access their business panel which will allow them to edit the information about their service, access the reviews and interact with the customers in the reviews.

Alongside the reviewers and business owners, we got Admin module. Admin has total control over the web application. Using the Contact Us form, one can contact admin easily. Apart from this, there is another panel called events which is helpful to know about the local events.

Table of Content

1. Feature Description

Better Reviews is a web application for providing the most reliable information about the local businesses. This website has a user-friendly interface where users can provide reviews about the local businesses. This website also has a business owners page where business owners can create their businesses and provide information about their services, timings etc. Business owners can also claim the unclaimed businesses which are created by users by an approval from administrator.

1.1 Competitive Information

This website has strikingly similar work structure with the most famous review website "Yelp". However, this website has a potential since it is run by crowd-sourced reviews. People rely a lot on the reviews of local businesses before they try their services. This enables "Better Reviews" to sustain against the competition.

1.1. Relationship to Other Application/Projects

This website has a feature which is connected to Google Maps for the better user experience.

1.2. Future Enhancements

Will work for the improvement of the interface and user experience. Blogs will be posted about the top businesses in the place.

2. Project Technical Description

2.1. Application Architecture

The following diagram shows the architecture of the web application.
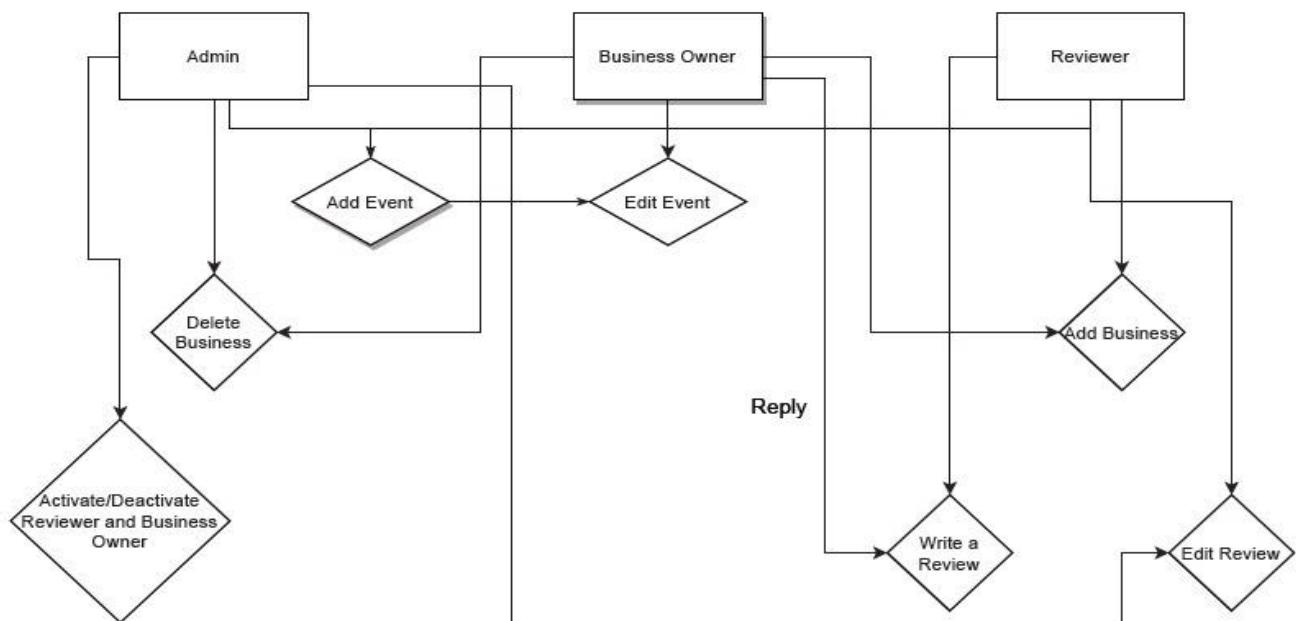
Fig: 1 Application Architecture

2.2 Application Information Flows

The homepage has a panel to register either as a reviewer or a business owner. The following are the functionalities of the website after we register as:

a. **Reviewer:**

Once the reviewer registers, the reviewer is able to:
- Login
- Add Business (Unclaimed business by default)
- View all businesses
- View Events
- Edit Profile
- Write a message to Admin
- Write a Review

Fig:2 Reviewer Functionalities

b. Business Owner:

Once the Business owner registers, the business owner is able to:
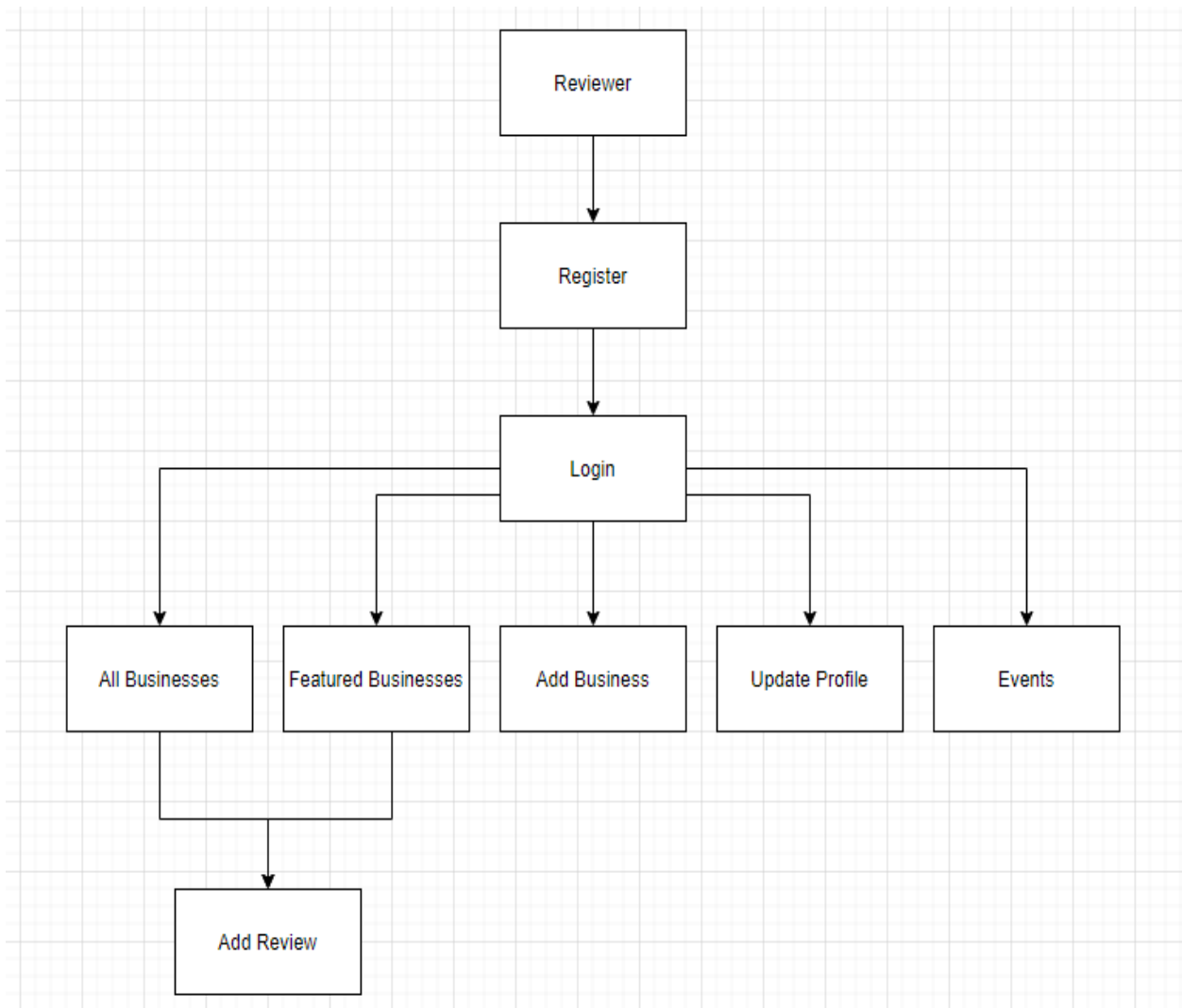
- Login
- Claim/Add business
- View all businesses
- View Events
- Edit Profile
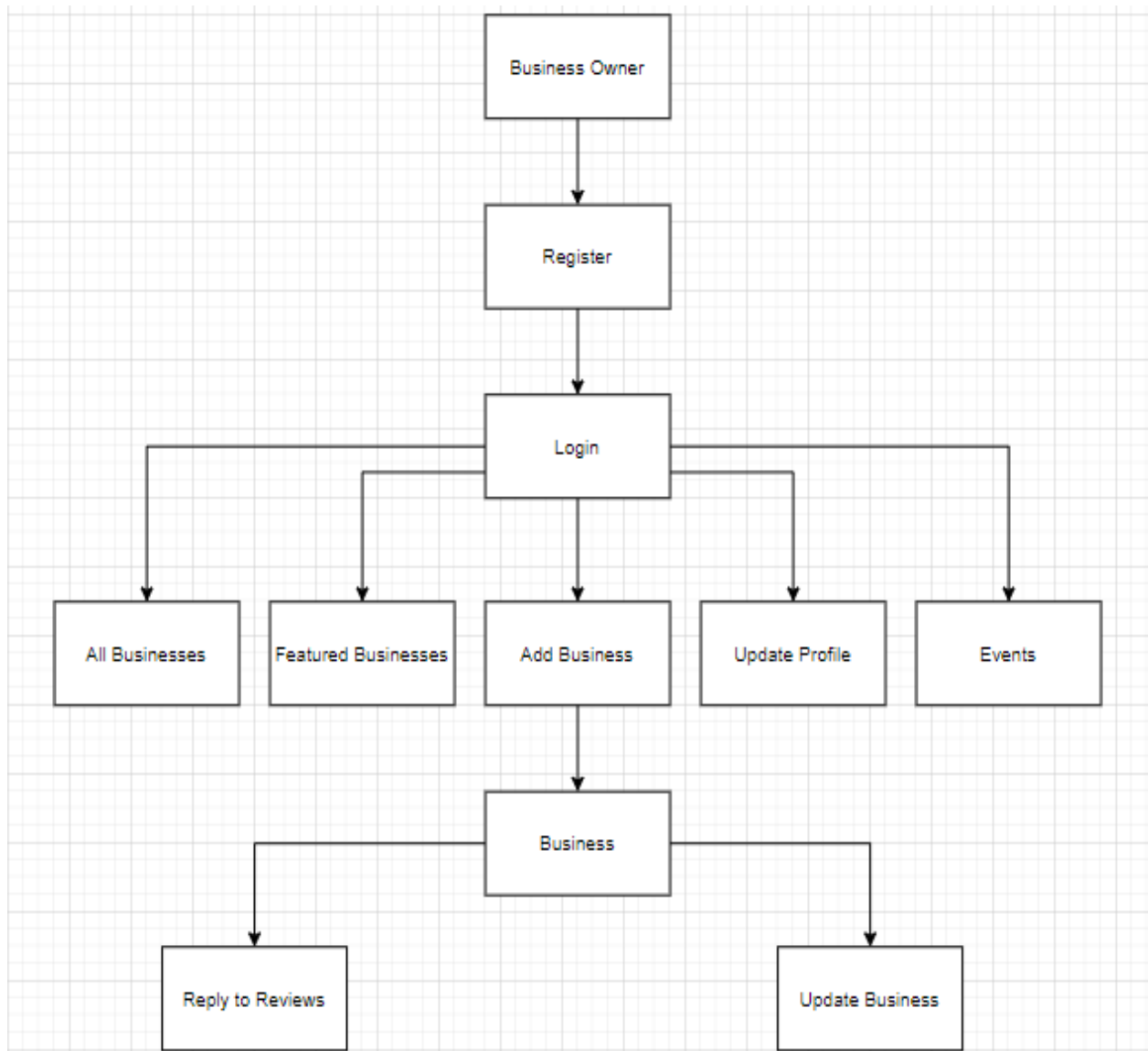- Write a message to Admin
- Update Business
- Reply to Reviews

Fig:3 Business Owner Functionalities

Admin:

The following are the functionalities of the admin:

- Login
- Add an Event
- Delete an Event
- View Claimed and Unclaimed businesses
- Delete Business
- Delete Reviews
- View Messages/Feedback from Customers
- Activate/Deactivate User Accounts
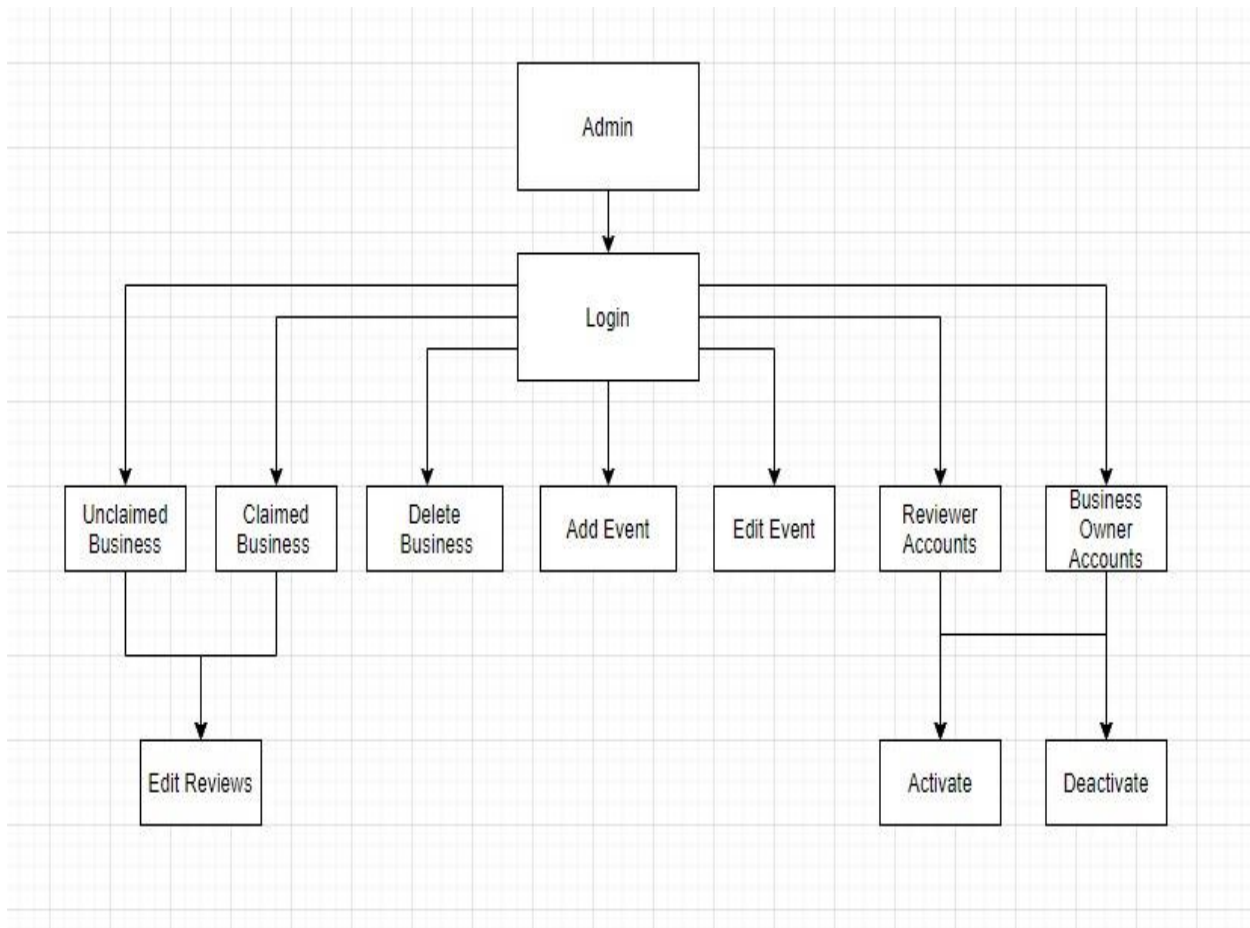

Fig:4 Admin Functionalities

2.3 Interactions with other Projects:

The project includes V3 ReCaptcha for the security which will reduce the chances of automated bots.

2.4 Interactions with other applications:

As we have already mentioned, we interact with the Google Maps where we can redirect to the business page in the project and access their services list.

2.5 Capabilities

The primary capability of this website is to provide reliable information about the local businesses. This will improve the business exposure among the customers. Local businesses will also improve their services to compete against the others with the growing reviews. Overall, it strengthens the customer-merchant relation.

2.6 Risk Assessment

There is always a possibility of fake reviews and fake businesses. For that administrator will regularly check upon the reviews and businesses. If sensed any fraudulent activity, the administrator will delete the activity and disable the user. However, with the increased data it will be difficult to manually detect such activities. The appropriate solution to overcome this problem is to increase the personnel in the admin panel.

3 Project Requirements

3.1 Identification of Requirements

This section provides a brief explanation of the use of named and enumerated requirements to identify and number requirements. For each requirement, please use the following

- **S**MART criteria as guidelines **S**pecific – target a specific area for improvement.

- **M**easurable – quantify or at least suggest an indicator of progress.
- **A**chievable – specify what will be accomplished
- **R**ealistic – state what results can realistically be achieved, given available resources.
- **T**ime-related – specify when the result(s) can be achieved.

<GSU-GS_CPSC8985_Team_7-1 User- (Task assigned) – "1">
The User should be able to view the reviews about the business looking for.
Implementation: The user should be able to view the reviews about the business with the help of categories like type of business, area zip-code.

<GSU-GS_CPSC8985_Team_7-2 User- (Task assigned) – "2">
The User should be able to sign up as reviewer.
Implementation: The user should be able to sign-up as reviewer with certain mandatory details about the user like first name, last name, email Id, zip-code etc.

<GSU-GS_CPSC8985_Team_7-3 User- (Task assigned) – "3">
The User should be able to sign up as Business owner.
Implementation: The user should be able to sign-up as business owner with certain mandatory details about the user and business like first name, last name, email Id, type of business, location, zip-code etc.

<GSU-GS_CPSC8985_Team_7-4 User- (Task assigned) – "4">
The User should be able to login as reviewer
Implementation: The user should be able to login as reviewer and should be able to provide the review and rating about the business also should be able to add the business if the business is never updated in website and the business should be unclaimed until the owner of the particular business is owned.

<GSU-GS_CPSC8985_Team_7-5 User- (Task assigned) – "5">
The User should be able to login as Business owner
Implementation: The user should be able to login as Business owner and should be able to own the business and also should be able to reply to the reviews provided by the reviewer.

<GSU-GS_CPSC8985_Team_7- 6 User- (Task assigned) – "6">
   The User should be able to login as Admin
         Implementation: The admin should be able to view the reviews, rating provided by the reviewer along with the businesses which are added and claimed by the business owner. Also admin be able to add/ update/ delete events.

3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

This module is about for the capabilities of the "Better reviews" webpage. If the user is just willing to view the reviews about the restaurant/saloon/gym, etc. User will be able to view the reviews without logging in.

Reviewer

In order to provide the reviews about the restaurants, groceries, saloon, gyms etc. reviewer can login and give the reviews or can view the reviews for the better products.
In order to view reviews about the business which are available in webpage, reviewer can visit the webpage and search for the business and will be able to view the rating and reviews.

If there are no reviews for the business and impressed by the service provided by the particular business, he needs to login with user credentials or signup with details listed below:
UserName:
First Name:
Last Name:
Email:
Password:

After the signup reviewer can login with email and password, later in the home page of reviewer the write and review option will be provided to give the review and will be able to provide reviews to the added business. However, if the business is not available will be able to add the business with the business name, zip code of the business and he provide ratings and reviews. Which will be posted under all businesses and the particular business will be added as unclaimed business as the business is added by the reviewer.

Business owner

The business owner can advertise the business in the webpage so that reviewers can write a review and also the business can be improved based on the customer reviews. In order to proceed with this task, the business owner must create account with the below details:
UserName:
First Name:
Last Name:
Email:
Password:

After signing up as business owner will be able add the business and along with the image of the business and complete address of the business. Once the business is added the reviewers will be able to give the ratings and reviews and also the business owner can acknowledge the reviews.

Administrator

The admin will be maintaining all the operations about the "Better reviews" website, the admin will be able approve the business and delete the business if the admin finds the users as fraud user or if the user performs anything against the business policy. Also, admin will be able to add / update or delete event which are organized by various businesses.

3.3 Security and Fraud Prevention

In order to provide the security for the users we are implementing the login page which requires the user credentials to login or user can also contact the administrator to reset the password.
Future implementation: If the user forgot the password, he should be able to retrieve the password with either of the retrieve password techniques security question or mobile/email ID verification method.

3.4 Release and Transition Plan

We are about to release the "Better review" website to customers on December 9th-2020 on AWS cloud. Which can be accessible by using link: http://betterreviews7.com/.

4. Project Design Description

Better Reviews is an online platform where the customer can review about Restaurants, stores, salons, offices, hotels, skyscrapers, gyms, websites, and many more local businesses. This web application typically consists of three modules i.e, reviewer, business owner, and admin. This web application consists of several web pages. The following are the web page of the Better Reviews -

1. **SIGN UP:** Both Reviewer and Business owner can register themselves with our application with his complete details.

   Captcha: Web-Application is enabled with Captcha in the Registration page just to avoid the fake reviews and automation bots.

After getting registered user can access his account through login page.

2. **LOGIN:** Reviewers as well as Business Owners can login into the web application through their credentials and need to pass the Captcha which is introduced to avoid fake logins.

Once the user logins he can go to a business and add his review. Once the business owner logins he can view his business reviews and he can respond to them.

3. **Business Details:** This page is used to update the complete details of a business which consists of several fields like Id, Name, Service type, Website, Location, Status.

Businesses can be added by both Business Owner's as well as Reviewers.

WORK FLOW:

- ADMIN → LOGIN → MANAGING REVIEWER → MANAGING BUSINESS OWNER → LOG OUT
- SIGN UP AS A REVIEWER → LOGIN AS A USER → REVIEW A BUSINESS →LOGOUT
- SIGN UP AS A BUSINESS OWNER → LOGIN AS A BUSINESS OWNER → CLAIM A BUSINESS/ ADD A BUSINESS → VERIFICATION → RESPOND TO REVIEWS → LOG OUT
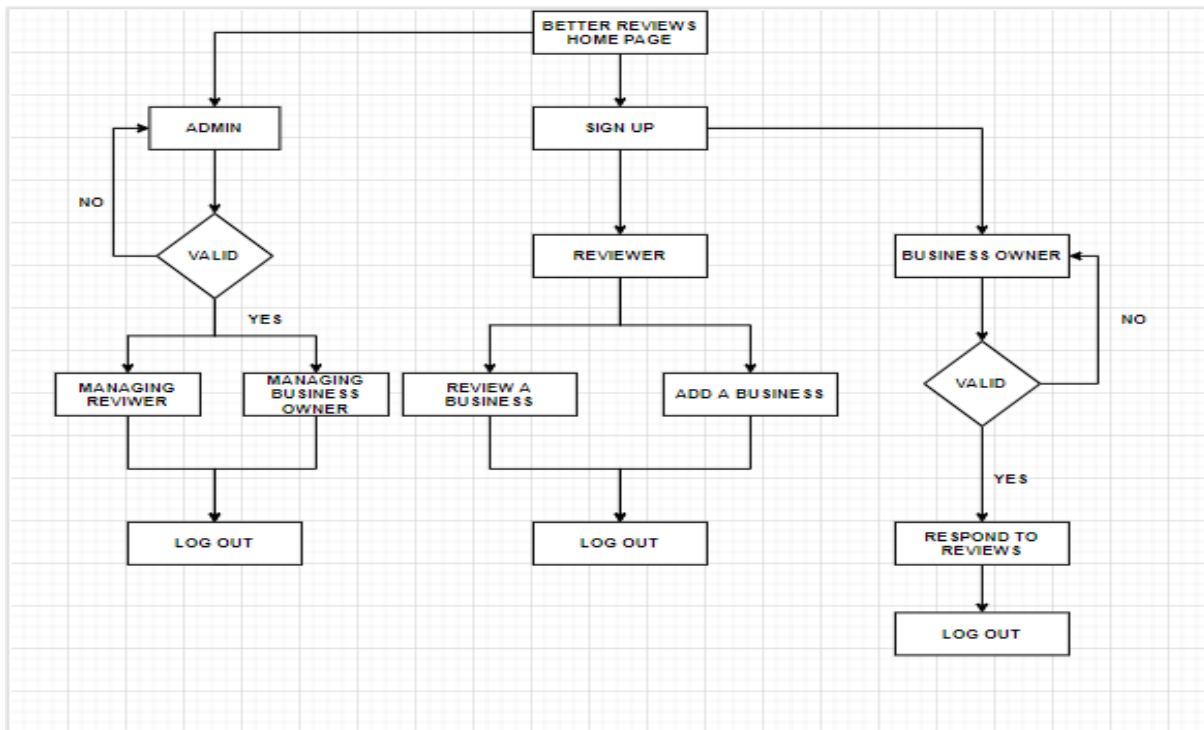

Fig 5: Work Flow

5. Project Internal/external Interface Impacts and Specification

We control both endpoints of the connection using internal interfaces. We can look at all the components and infrastructure involved if something goes wrong and decide how to fix it and what to do to avoid it in the future. Typically, those internal interfaces are between your web server and caches, or your database and your application server. We also have the most space to prepare properly here.

However, external interfaces restrict our influence to one portion of the link. A third party, typically in a different data center, runs the second part. Typically, these interfaces are social media networks, but they can also be external mail servers, authentication, partner companies' databases, or anything else. The problem with the external interface is that you will often operate without a specified level of service and will have to deal with unknown availability or performance. In addition, it also makes sense to have good and direct personal contact with the other interface operators so that if the need arises, they can be influenced to make reasonable changes on their part. In addition, external interfaces can alter or be removed in time frames that may be outside of your control or even unknown to you.

We are excited to introduce better reviews with new look and our brand new business pages. Our website local content our communities have contributed and make finding key business information even easier for consumers. We designed every element on the business page similar to that of yelp. Now a day's photos are used to determine an incredible amount about a business the new design puts them front and center instead of keeping small thumbnail for the business. Highlights from better review give you a birds-eye-view of the favorite elements of an organization in our culture. Since the highlights of the review are so helpful, we have given them a huge upgrade, mining our review data to call out the best menu items, prices and important information such as whether a bar is just beer and wine. Our website content is so valuable in helping people make spending decisions we adjusted columns width and font size large for optimal readability.

6. Project Design Units Impacts
6.1 Functional Area/Design Unit A
6.1.1 Functional Overview

Reviewer: A reviewer can write a review to the restaurant or the businesses featured in the Website by logging in with his details. Also, he can view the events and featured business. He can write a message to Admin.

Business Owner: A business owner can claim his business and also reply to the review given by the reviewer. He can add and update a business. Like Reviewer he can write a message to Admin.

Admin: Admin can login and Manage both reviewer and Business owner module. They can view the featured businesses and claimed/unclaimed business. Admin has control over what is displayed throughout the website and they can edit profiles too.

6.1.2 Impacts

The front end design of the website is so simple and the appearance of each business is put in a way that online viewers can find easy to get the details of the business and for reviewers it is easy to give a rating and write a review according to the featured business. It has also given opportunity to them add a business if they do not find and for the Business Owner, they can claim their business if not done before. Load time of each webpage is very less making the online viewers to get their work done as soon as possible.

6.1.3 Requirements

Functional requirements include a review to be taken from the reviewer and also display the review on the page. It also gives the functionality to write a reply to review by the business owner. Also Admin has the functionality of adding and deleting number of users of a website. Business owner can claim a business if it is unclaimed and admin can delete the business if needed. They can add an event to the website also.

6.2 Functional Area/Design Unit B
6.2.1 Functional Overview

Admin: Admin can login and manage both reviewer and Business owner module. They can view the featured businesses and claimed/unclaimed business. Admin has control over what is displayed throughout the website and they can edit profiles too.

6.2.2 Impacts

Load time of each webpage is very less making the online viewers to get their work done as soon as possible. Admin page was made in such a way that it can give support to both reviewer and Business owner if any issue is raised.

6.2.3 Requirements

Admin has the functionality of adding and deleting number of users of a website. Admin can also claimed/unclaimed according to the requirement.

REQUIREMENTS:

SOFTWARE REQUIREMENTS:

IDE-PyCharm

Fig 6: IDE-PyCharm

PyCharm is an integrated development environment (IDE) used in computer programming, specifically for the Python language. It provides code analysis, a graphical debugger, an integrated unit tester, integration with version control systems (VCSes), and supports web development with Django as well as data science with Anaconda.

OS-Microsoft Windows

Fig 7: OS-Microsoft Windows

Microsoft Windows is a group of several proprietary graphical operating system families, all of which are developed and marketed by Microsoft. Each family caters to a certain sector of the computing industry. Active Microsoft Windows families include Windows NT and Windows IoT; these may encompass subfamilies, e.g. Windows Server or Windows Embedded Compact (Windows CE). Windows 10 is the latest version of windows family.

SERVER:Xampp

Fig 8: SERVER: Xampp

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

DATABASE: MySQL (phpMyAdmin)

Fig 9: DATABASE: MySQL (phpMyAdmin)

phpMyAdmin is a free and open source administration tool for MySQL and MariaDB. As a portable web application written primarily in PHP, it has become one of the most popular MySQL administration tools, especially for web hosting services.

HARDWARE REQUIREMENTS:

- **Operating System:** Windows, OSX and latest versions of Linux

- **Processor:** Standard processor with a speed of 1.8 GHz or more

- **RAM:** 256MB RAM or more

- **Hard Disk:** 20GB or more

- **User Interface:** HTML, CSS (bootstrap)

- **Client-side Scripting:** Django

- **Database:** Xampp (MySQL)

DATABASE SCHEMA:
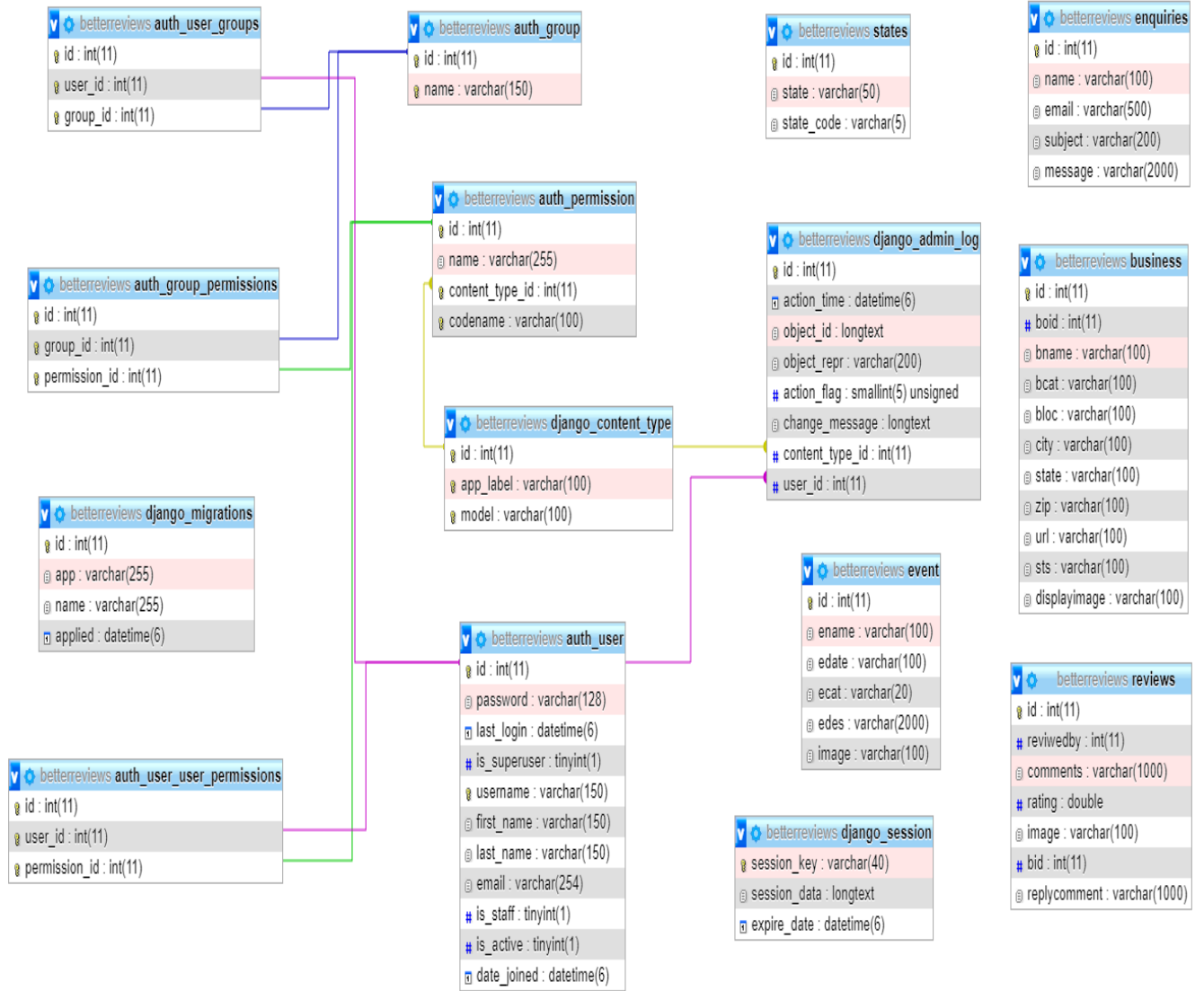
Fig 10: Database Schema

WORK FLOW:
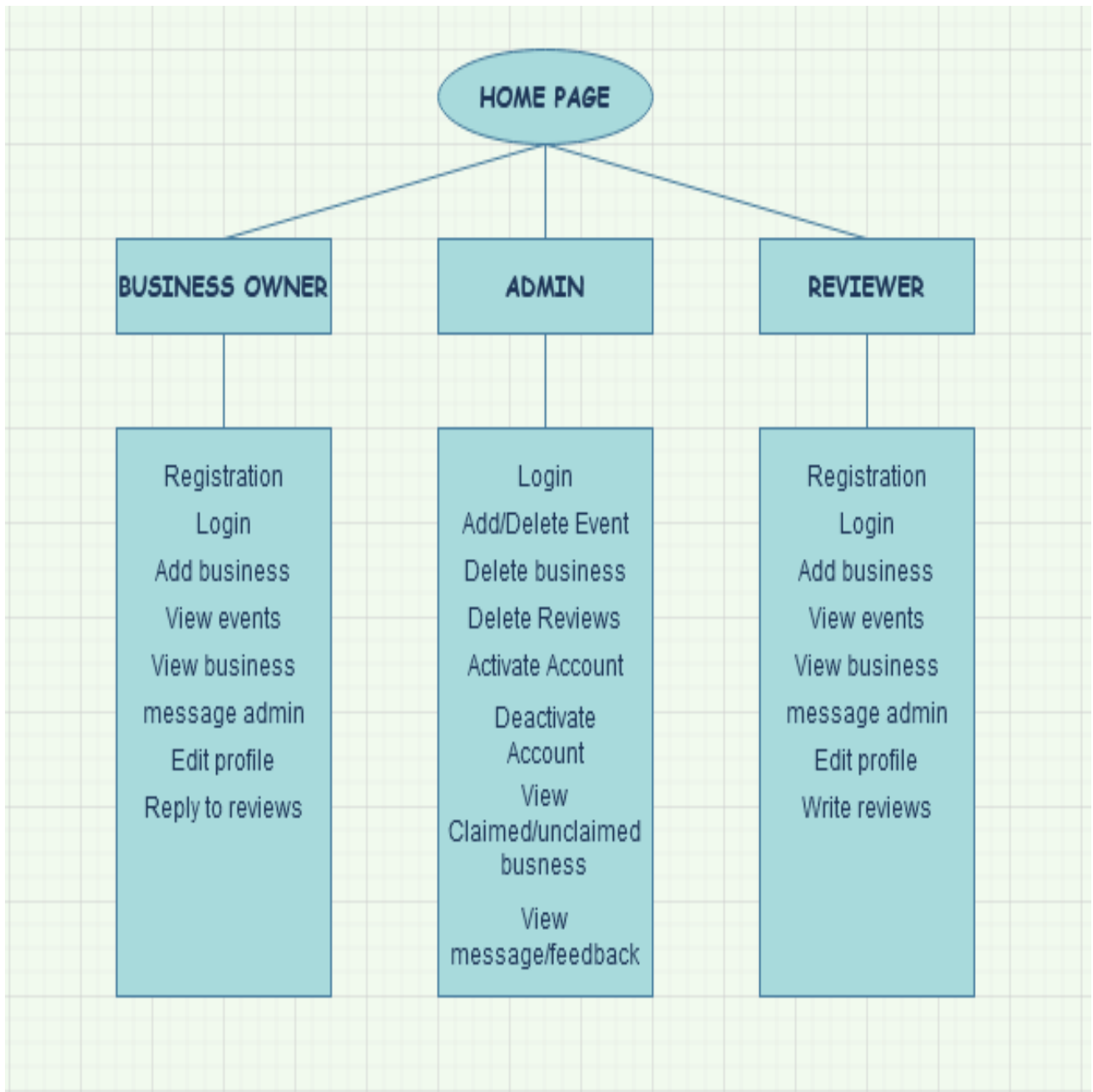
Fig 11: Work Flow

USE CASE DIAGRAM:
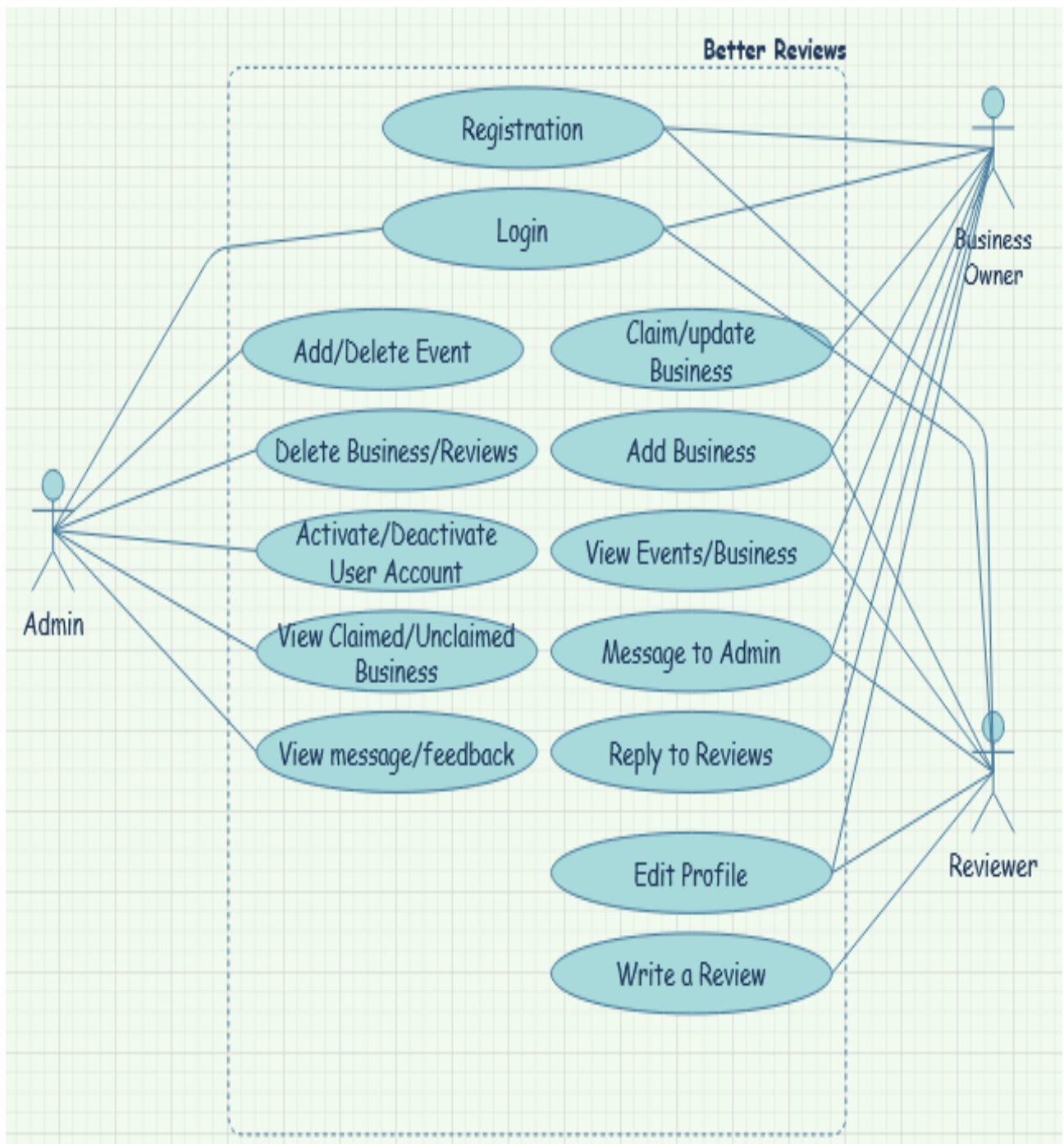
Fig 12: Use Case Diagram

ER DIAGRAM:
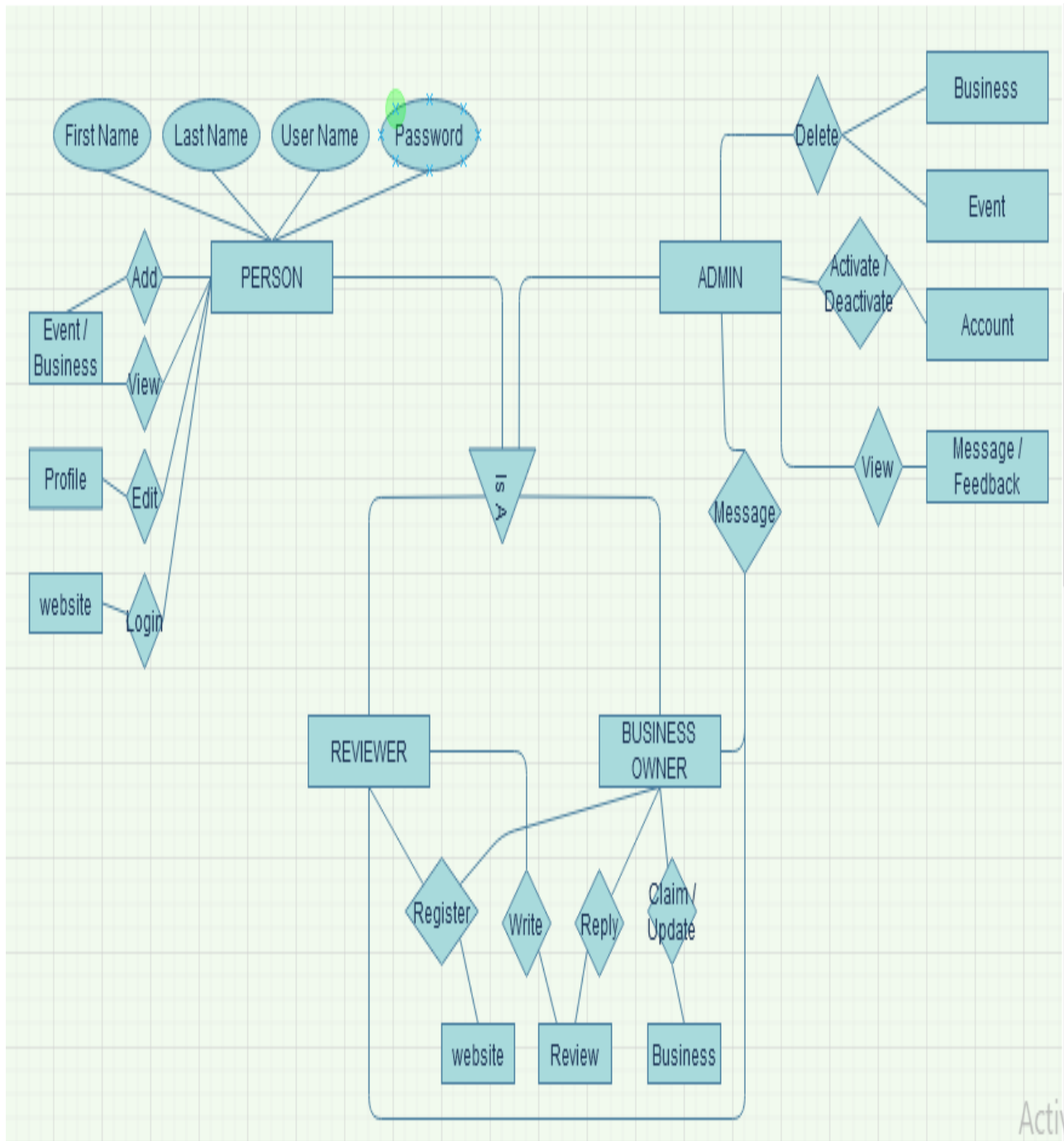
Fig 13: ER Diagram

SCREENSHOTS
HOME PAGE
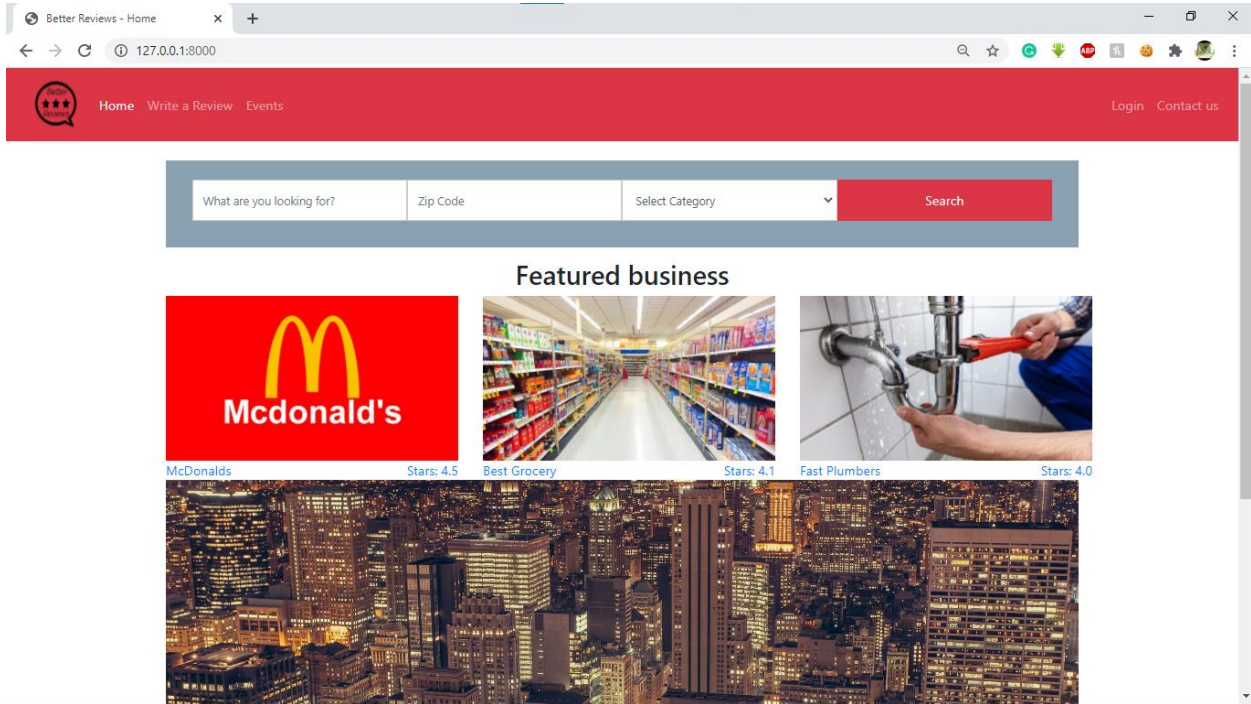
Fig 14: Home Page

ALL BUSINESSES
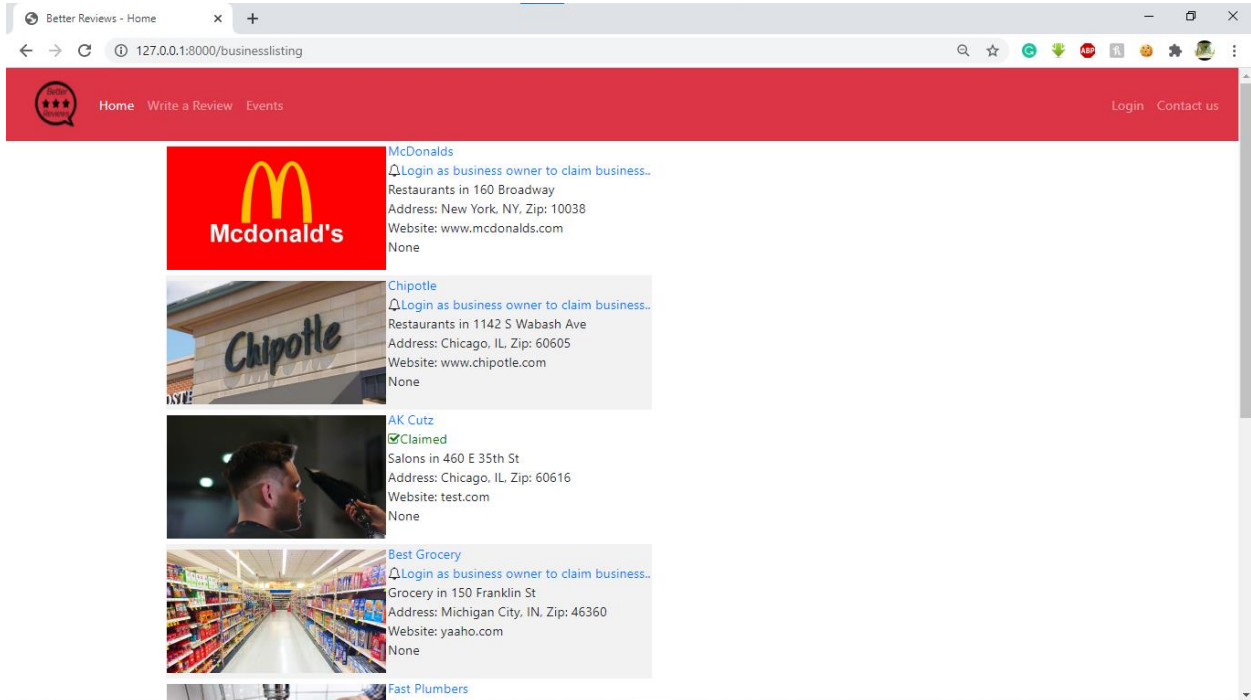
Fig 15: All Businesses

EVENTS

Fig 16: Events

CONTACT US

Fig 17: Contact Us

LOGIN PAGE

Fig 18: Login Page

REVIEWER SIGNUP

Fig 19: Reviewer Sign Up

REVIEWER HOME PAGE
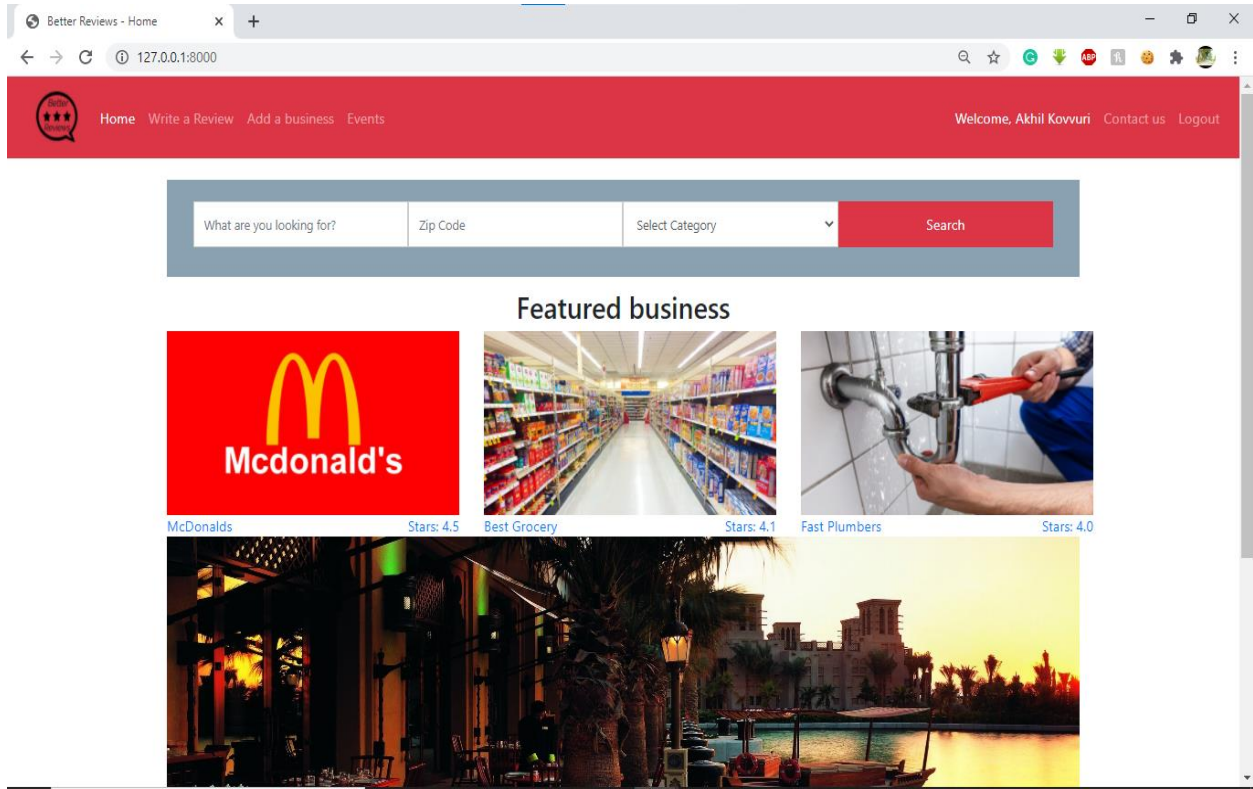
Fig 20: Reviewer Home Page

REVIEWER ADDING A BUSINESS
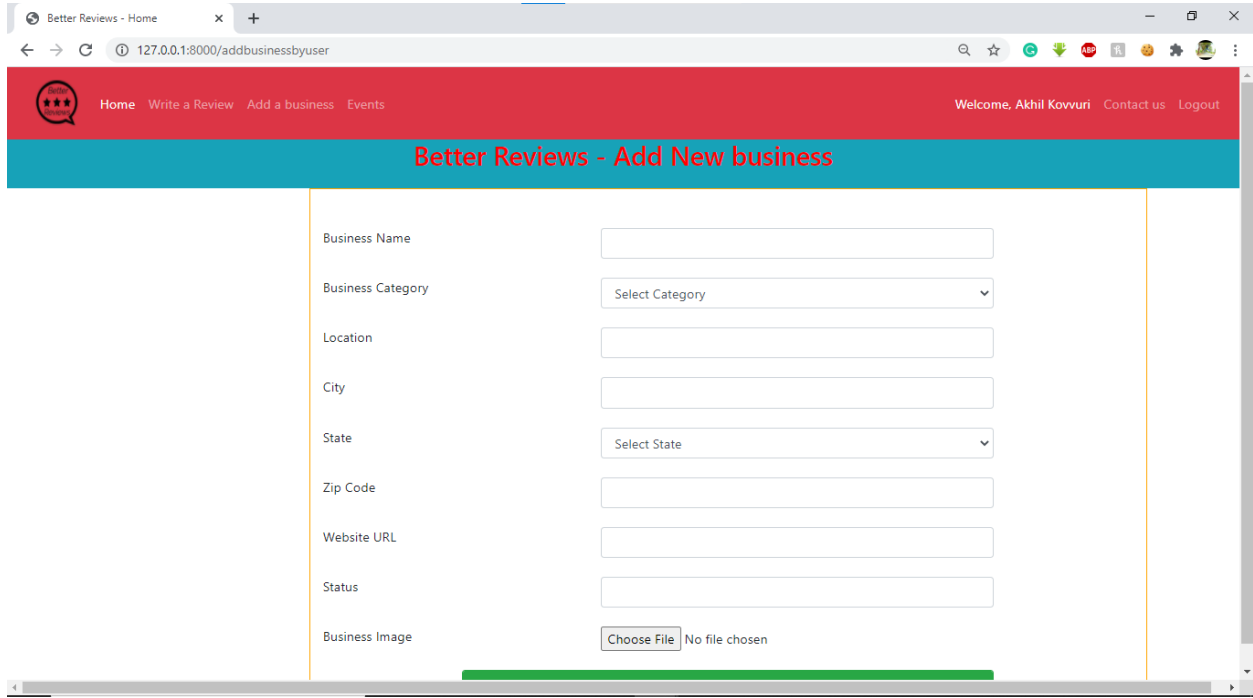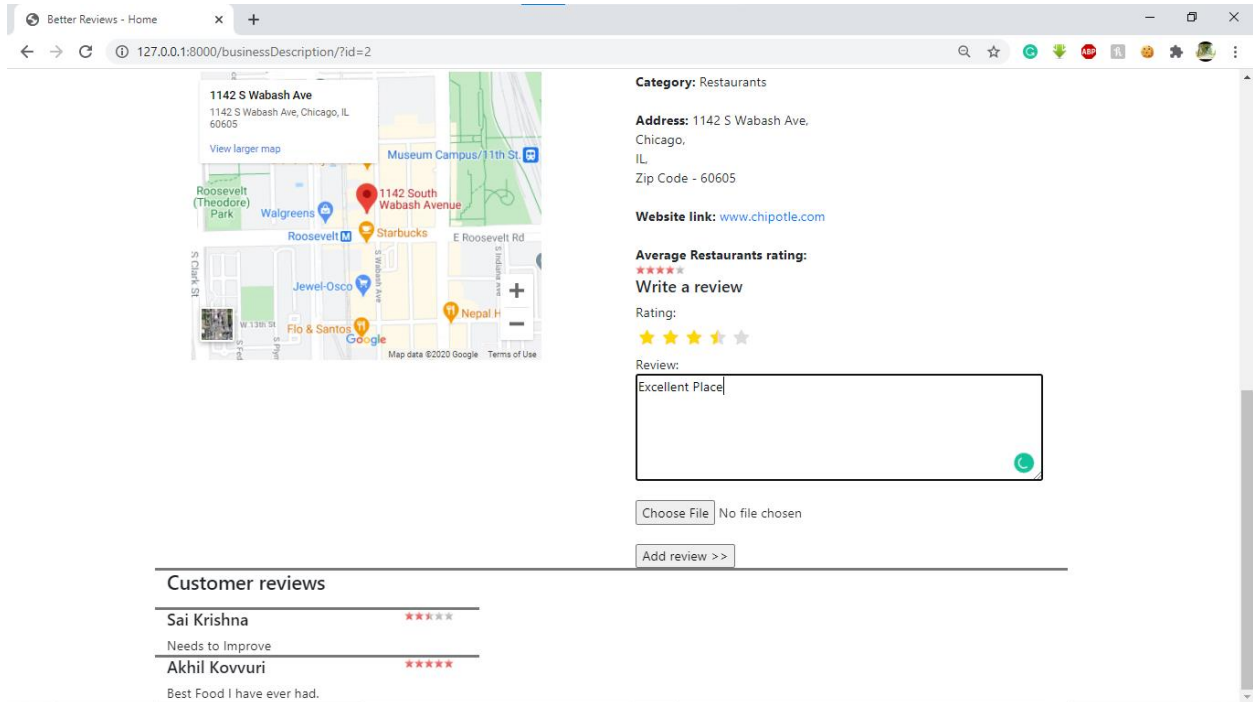
Fig 21: Reviewer Adding a Business

REVIEWER WRITING A REVIEW
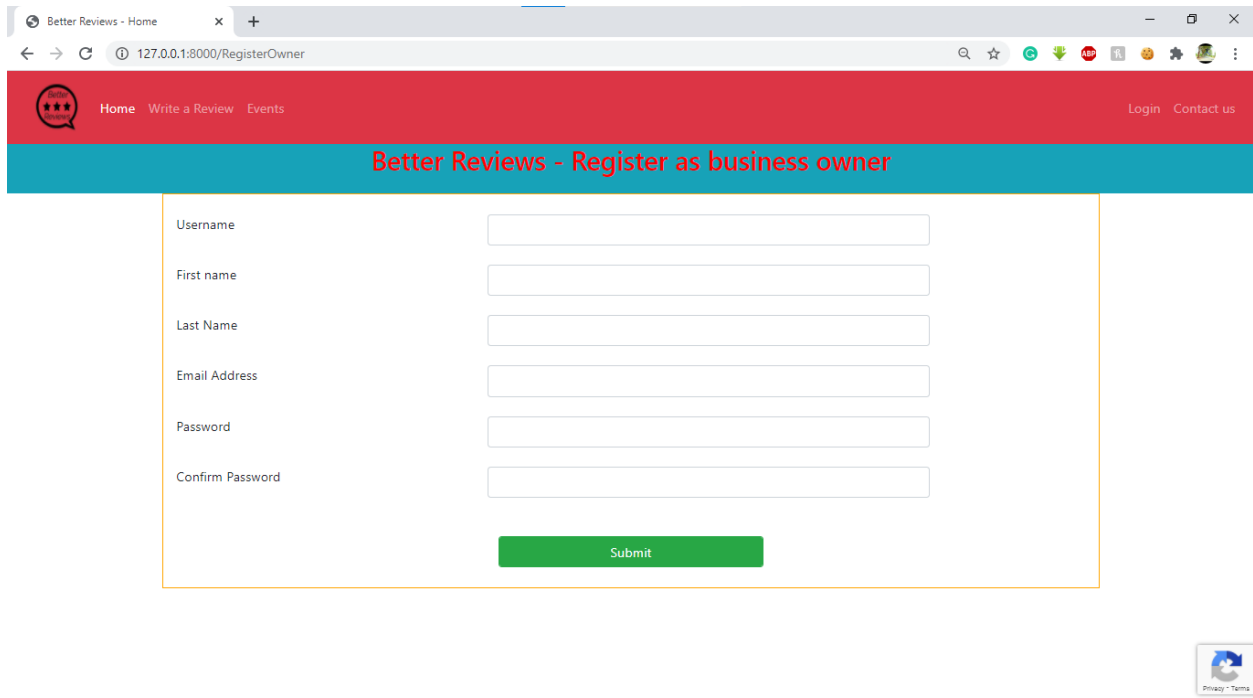
Fig 22: Reviewer Writing a Review

BUSINESS OWNER SIGNUP

Fig 23: Business Owner Signup

BUSINESS OWNER HOME PAGE

Fig 24: Business Owner Home Page

BUSINESS OWNER ADDING A BUSINESS
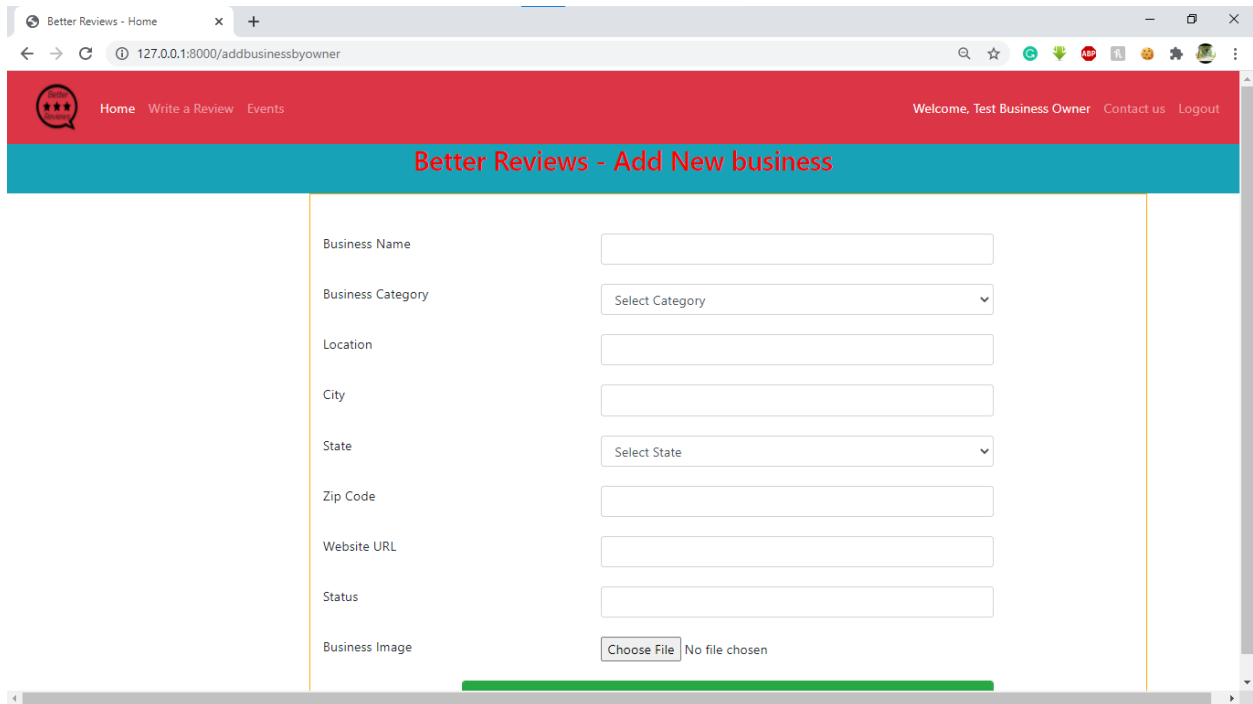
Fig 25: Business Owner Adding a Business

BUSINESS OWNER CLAIMING A BUSINESS
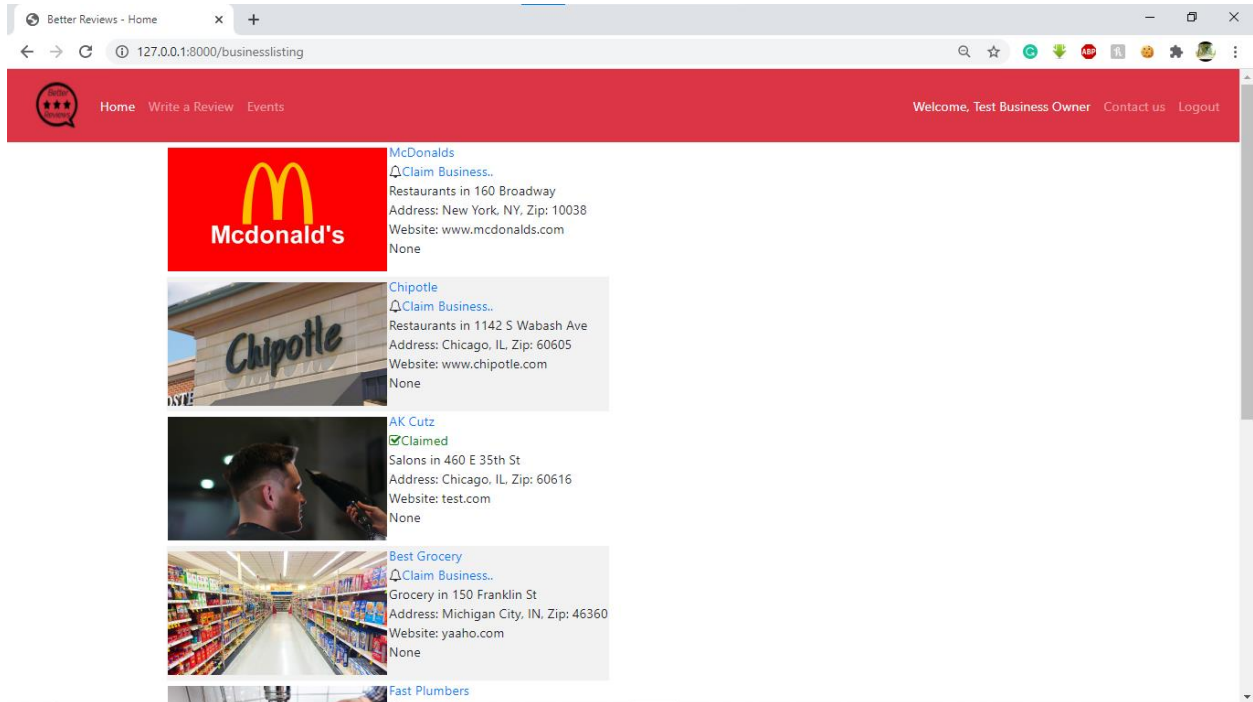
Fig 26: Business Owner Claiming a Business

BUSINESS OWNER WRITING A REPLY
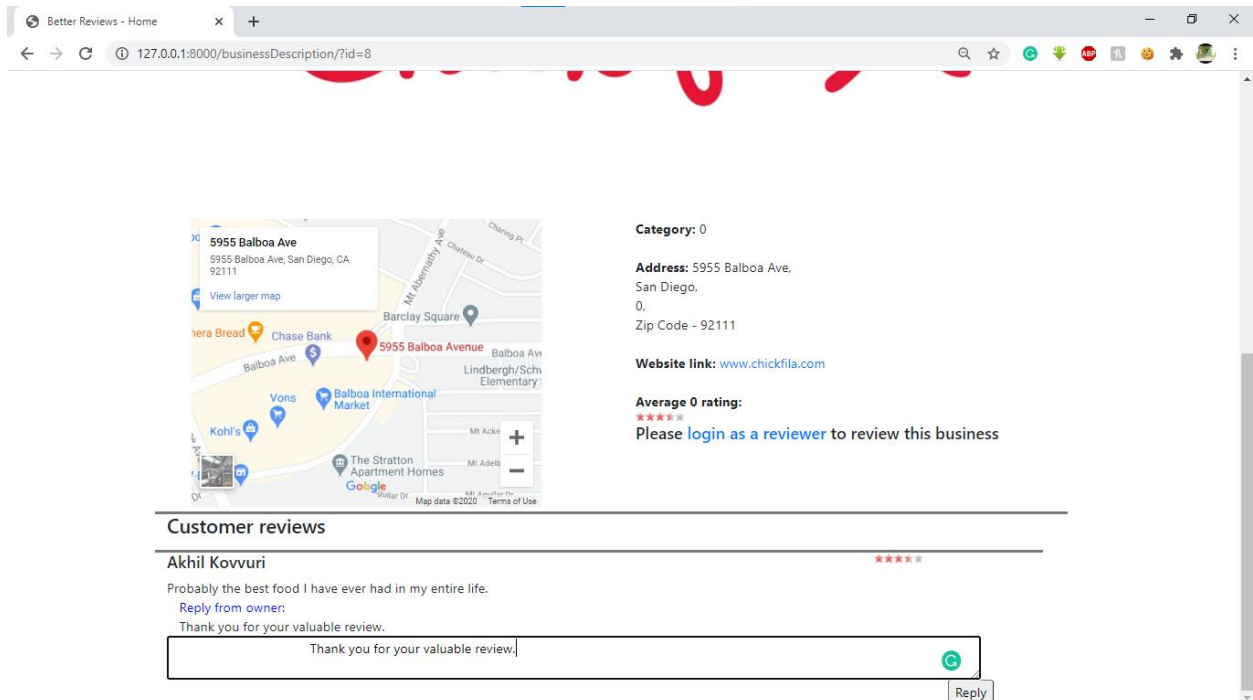
Fig 27: Business Owner Writing a Reply

ADMIN LOGIN PAGE
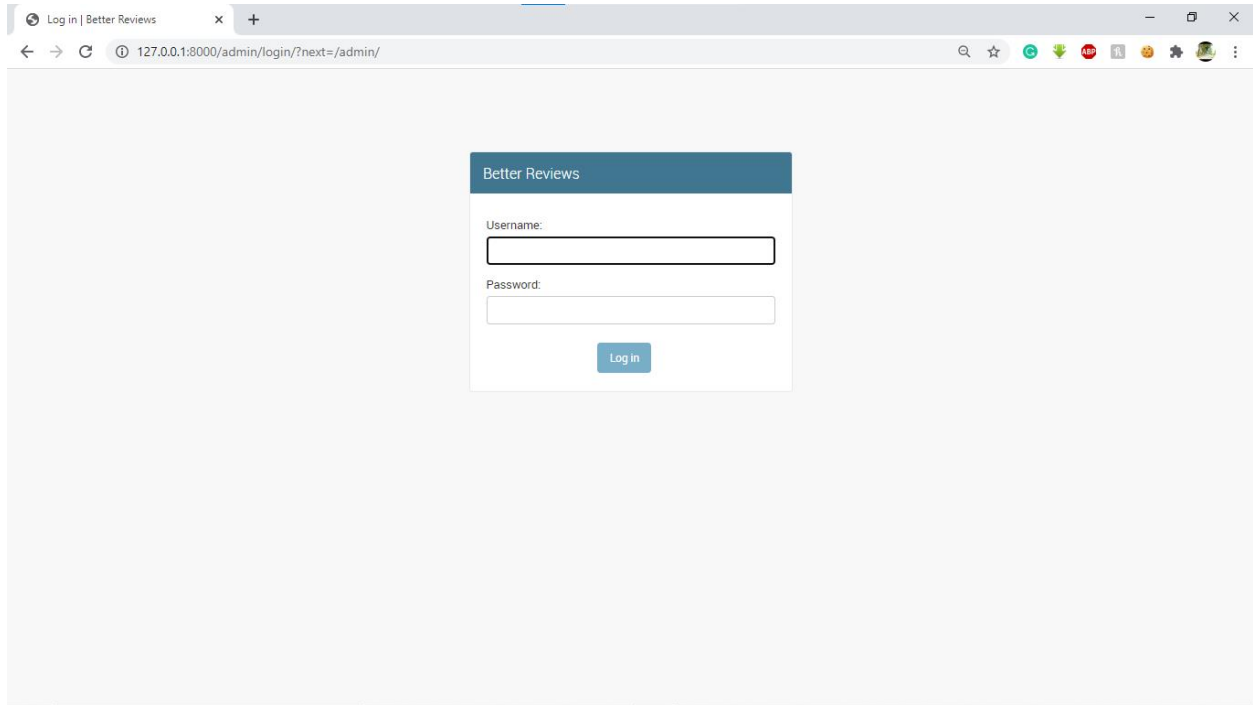
Fig 28: Admin Login Page

ADMIN HOME PAGE
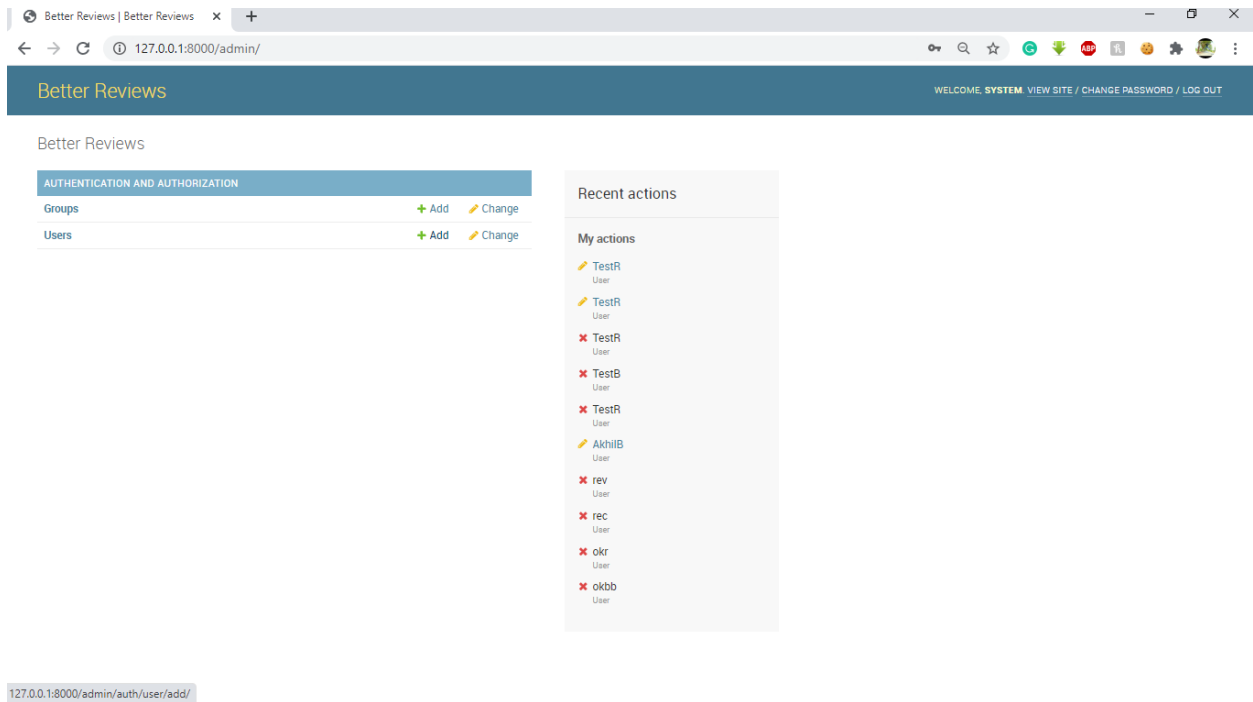
Fig 29: Admin Home Page

ADMIN HOME PAGE
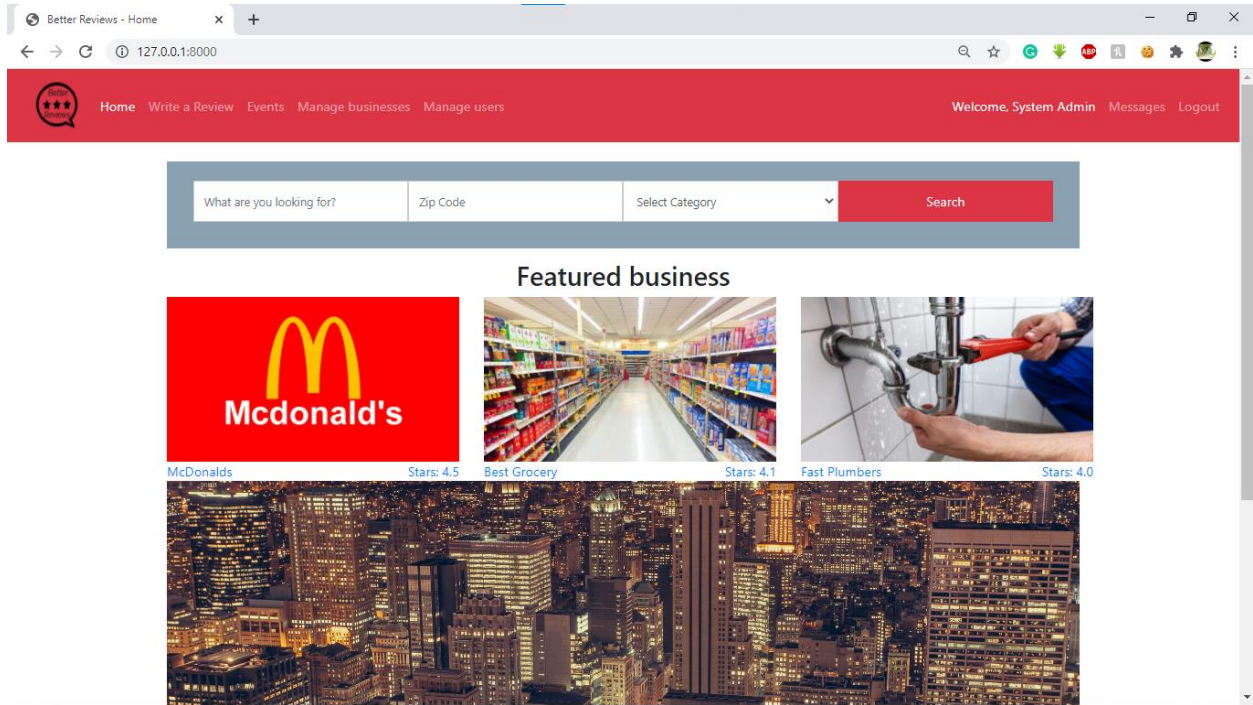
Fig 30: Admin Home Page

ADMIN MANIPULATION OF EVENTS
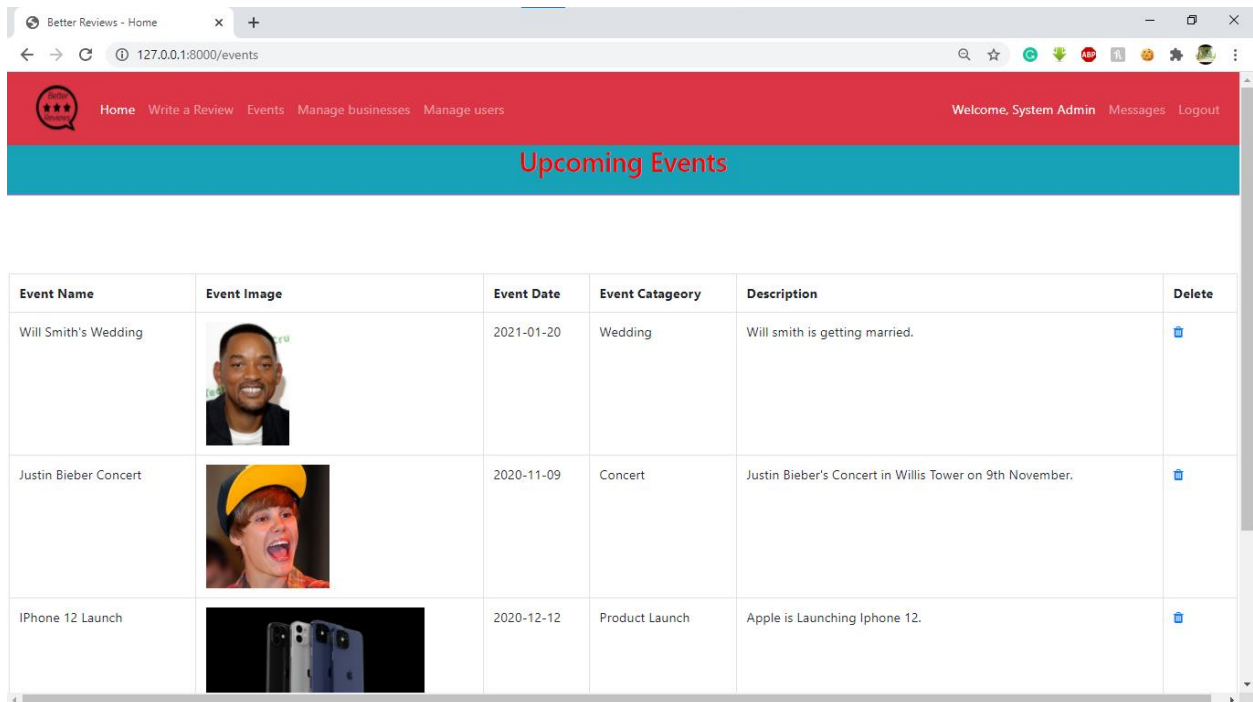
Fig 31: Admin Manipulation of Events

ADMIN MANAGING BUSINESSES

Fig 32: Admin Managing Businesses

ADMIN ADDING AN EVENT
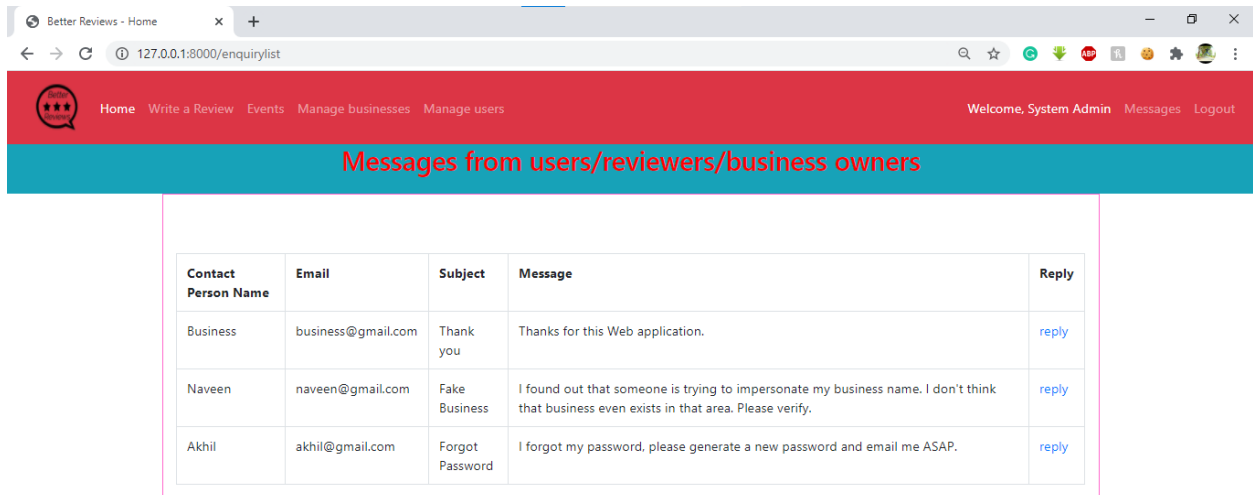
Fig 33: Admin Adding an Event

MESSAGES BY CUSTOMERS TO ADMIN

Fig 34: Messages by Customers To Admin

7. *Open Issues*

- As of now, users cannot change their password, whenever they want to change their password or if they forgot their password. In order to change password they can contact admin, so that admin can change their passwords. But in future we will enable this feature too.
- For now, Forgot password feature is also not implemented.
- As of now, the reviewers cannot edit their reviews. In the future we will allow reviewers to edit their reviews as well.

8. *Acknowledgements*

This Project is created and developed with our own knowledge and documented by ourselves. We appreciate our Professor Xin Chen who helped us in completing the whole project.

9. *References*

- *https://docs.djangoproject.com/en/3.1/*